

Missouri. Conservationist

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Helping Future Conservationists Discover Nature

Managing and sustaining our forest, fish, and wildlife resources is a complex process that requires a multiyear commitment, continuous evaluation, and citizen participation. However, one of the most

simple and effective ways to address many conservation challenges is to help our state's children discover nature.

When getting outside and discovering nature becomes an integral part of our lives, we become invested in taking care of it. It's personal. This legacy of conservation often starts in childhood when we are eager to explore and learn new things. Whether through hiking, hunting, fishing, or watching wildlife, it's the connection to our natural world that matters. When parents, grandparents, siblings, and other mentors encourage children to spend more time in nature, they help shape the conservationists of the future. Read *A Tale of Two Mentors* on Page 16 to see how beneficial and fun mentorship can be.

The Conservation Department also continues to invest in helping kids discover nature through our strong outreach and education efforts in the schools. Discover Nature Schools is a school-based curriculum designed for pre-kindergarten through high school, which provides teacher training, instructional units, and funding for equipment and outdoor field experiences. This curriculum allows kids in Missouri to learn about nature in their own backyard with no extra expense to the school. Discover Nature Schools is currently in 80 percent of school districts across the state, with a goal to be in 100 percent by 2016.

Classroom education isn't the only school outreach. The Department also facilitates the Missouri National Archery in the Schools Program. This program's mission is to teach kids the basics of archery as part of their school day and to build stronger, more confident and accomplished kids. It's working wonders. Statistics show that kids in school archery programs improve their school attendance, increase self-esteem, and increase outdoor physical activity. Missouri is now one of the top 10 states in the nation for the highest participation in school archery programs.

The Department also makes it a priority to offer activities for kids and families to learn new outdoor skills together. Our Discover Nature — Fishing program partners our trained staff



and volunteers with kids and families to teach them the basics of fishing, fast-tracking them to the joy of their first catch. Discover Nature — Girls Camp, hosted by conservation agents and held at various locations in the summer, teaches hundreds of young girls each year about canoeing, archery, shooting, fishing, outdoor cooking, and other valuable outdoor skills. The Department partners with 4H and FFA camps to provide additional opportunities in shooting sports. All of these programs are free and part of the Department's ongoing mission to help everyone, especially kids, discover nature.

Recruiting conservationists for the future is one of our biggest jobs right now. It is a worthy investment. Just as we are investing, we hope you will, too. Take kids with you when you explore a new trail or find a great fishing hole. Listen closely about the best school field trip ever. Sign them up for our free kids' magazine, *Xplor*, where lots of adventures in nature are waiting. The future of conservation begins with our kids, and, hopefully, just keeps growing from there.

A handwritten signature in black ink, reading "Robert L. Ziehmer".

Robert L. Ziehmer, director

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An Ozark tradition

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Landowners partner with the Department of Conservation to protect our white-tailed deer herd.

Cover: A male northern cardinal searches for food near a stream in Troy, Missouri. Cardinals are common statewide, permanent residents. Photograph by Noppadol Paothong.

📷 600mm lens + 1.4x teleconverter
f/5.6 • 1/200 sec • ISO 800

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WHAT IS IT?

Our photographers have been busy exploring the intricacies of the Missouri outdoors. See if you can guess this month's natural wonder. The answer is revealed on Page 8.



[LETTERS]

Submissions reflect readers' opinions and might be edited for length and clarity.

OPPORTUNITY FOR ALL

Thank you for the wonderful story about the deer hunts at Mark Twain Lake and Smithville [*Missouri Deer Hunting: Opportunity for All*; July]! My son and I have volunteered at the Mark Twain hunt since 2003. We come home every year with a whole new outlook on life. It's the greatest thing to remind us not to take even the smallest things for granted. We look forward to seeing our "once-a-year friends." James Dean is one of many inspirations for all of us.

Glenda Baker Phillips, Sibley

FIND US ONLINE

Have you ever considered doing an electronic edition of the *Missouri Conservationist*? I belong to several organizations that do their newsletters/publications like this. It generally saves a lot of money for printing and mailing costs, and

it gets the information out quicker. A monthly email notifies everyone that the latest issue is available, and it includes a link to the organization's website for downloading the publication.

Gregory Quigley, Ellisville

Ombudsman's Note: The Missouri Conservationist and a variety of news items are available in electronic format, free of charge, on our website at mdc.mo.gov. We have about 10,000 people who receive email notices when each month's magazine is posted. You can read it online, or download a PDF of the full issue.

To subscribe to the online version of the Conservationist and other Department publications, visit mdc.mo.gov/node/9087 and choose the email option. Current and past issues of the magazine are

available on the Conservationist's page at mdc.mo.gov/conmag. —Tim E. Smith

BARCLAY BROWNS

I was at Barclay Conservation Area on a Sunday morning and caught over two dozen browns, a few of them over 16 inches. I'd like to think I'm a pretty skilled fisherman, but was wondering if browns had been stocked again recently, since it was my understanding that they are normally only stocked once in the fall.

I called the hatchery office the other day, and there has not been a recent stocking of browns. All I can say is wow! I fished from 7 a.m. to 10 a.m. and never saw a soul, bringing over 30 fish to the net — all released.

People around here don't realize how good we have it here in Missouri. Keep up the good work, there are plenty of us who do appreciate it.

David McGowan, via Internet



Reader Photo

PICKLE SPRINGS

Tim Watson of Sainte Genevieve submitted this photo of Pickle Springs Natural Area. He took the photo while he and his two sons were hiking the Trail Through Time. "We were amazed at the beauty this gem, so close to us, had to offer," said Watson. "We frequent Pickle Springs quite often and enjoy the outstanding and varied views of rock formations, creeks and streams, woods, and the unbelievable cliff top overlook seen in this picture. To have a place that allows an unobstructed view like this, so close to home, is amazing. Even though the view from the top is wonderful during the summer, it is even more spectacular in the fall."

PLANTS & ANIMALS

We have been subscribers to the *Missouri Conservationist* for many years. While we no longer live in Missouri, it is one of our favorite magazines. I especially like the "Plants & Animals" column [Page 30]. It is very helpful to have the photography information given. We are advanced amateur photographers but always wonder how certain photographs were shot. This column gives the specifics as well as the reason the photographer shot in that manner. I especially enjoyed all the information given in the story and photograph by Danny Brown this month.

Ethelyn Carr, via Internet

CORRECTION

There was a mistake in the article *Emmett and Leah Seat Memorial Conservation Area* on Page 32 of the June issue.

In the first paragraph, it says that Littleton Seat settled on the featured farm in northwest Missouri in 1884. But it was really 1844.

Littleton Seat was my great-grandfather William Seat's grandfather. Littleton was born in 1788, moved with his parents to Tennessee around 1800, and then moved to Cooper County, Missouri, in 1818. In 1844, he moved to what was still Gentry County, Missouri, where he died in 1845.

Leroy Seat, Liberty



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Discover more about nature and the outdoors through these sites.

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Kids' site: XplorMo.org

Missouri Conservationist: mdc.mo.gov/node/83

Missouri Department of Conservation: mdc.mo.gov

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KIDS' MAGAZINE

Six times a year we'll bring you eye-popping art, photos, and stories about Missouri's coolest critters, niftiest natural places, liveliest outdoor activities, and people who've made a living in the wild. Come outside with us and XPLOR!

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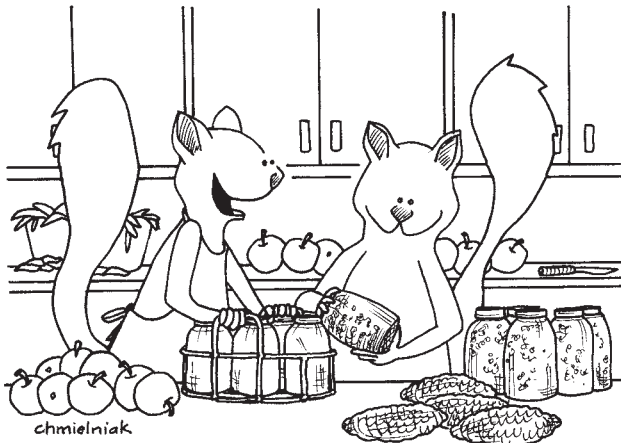
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**"No more stored nuts for me all winter.
This year it's canned corn and applesauce."**

Agent Notes

Fall Mushroom Hunting

EVEN THOUGH MORELS are still months away, there are tremendous wild mushroom hunting opportunities available now. Missouri is home to many kinds of edible mushrooms that grow in the fall, and some of us would argue they are even tastier than morels!

You will likely encounter fall mushrooms while walking, cutting firewood, scouting for deer, or floating down an autumn stream. They can be found in the places you'd least expect, so be alert. Hen of the woods, chicken of the woods, and oysters are among the most common and tasty fall mushrooms. Like many folks, I passed these by for years because I didn't know how to identify them.

It's important to properly identify any mushroom you plan to eat because some edible mushrooms may look similar to those that can make you sick. The Department publishes *Missouri's Wild Mushrooms*, an easy-to-use book that will help you find, identify, and cook some of our best wild fungi. This book can be purchased at our regional offices, Nature Centers, or online at mdcnatureshop.com.

Mushrooms collected on private property may be sold, but those on conservation areas may be taken only for personal consumption. Fall mushroom hunting is a lot of fun, and yet another activity that makes autumn enjoyable for us all.

Adam Doerhoff is the conservation agent for Boone County. If you would like to contact the agent for your county, phone your regional conservation office listed on Page 3.



HUNTING AND FISHING CALENDAR

FISHING

	OPEN	CLOSE
Black Bass from Ozark Streams	05/24/14	02/28/15
Bullfrogs and Green Frogs	Sunset	Midnight
	06/30/14	10/31/14
Nongame Fish Giggling	09/15/14	01/31/15
Paddlefish on the Mississippi River	09/15/14	12/15/14
Trout Parks	03/01/14	10/31/14

HUNTING

	OPEN	CLOSE
Coyote	05/12/14	03/31/15
Crow	11/01/14	03/03/15
Deer		
Archery	09/15/14	11/14/14
	11/26/14	01/15/15
Firearms		
Urban Portion	10/10/14	10/13/14
Early Youth Portion	11/01/14	11/02/14
November Portion	11/15/14	11/25/14
Antlerless Portion (open areas only)	11/26/14	12/07/14
Alternative Methods Portion	12/20/14	12/30/14
Late Youth Portion	01/03/15	01/04/15
Doves	09/01/14	11/09/14
Groundhog (woodchuck)	05/12/14	12/15/14
Pheasant		
Youth	10/25/14	10/26/14
North Zone	11/01/14	01/15/15
Southeast Zone	12/01/14	12/12/14
Quail		
Youth	10/25/14	10/26/14
Regular	11/01/14	01/15/15
Rabbit	10/01/14	02/15/15
Sora and Virginia rails	09/01/14	11/09/14
Squirrel	05/24/14	02/15/15
Teal	09/06/14	09/21/14
Turkey		
Archery	09/15/14	11/14/14
	11/26/14	01/15/15
Firearms	10/01/14	10/31/14
Waterfowl	see the <i>Waterfowl Hunting Digest</i> or mdc.mo.gov/node/3830	
Wilson's (common) snipe	09/01/14	12/16/14
Woodcock	10/15/14	11/28/14

TRAPPING

	OPEN	CLOSE
Beaver and Nutria	11/15/14	03/31/15
Furbearers	11/15/14	01/31/15
Otters and Muskrats	11/15/14	02/20/15

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code* and the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, *The Spring Turkey Hunting Regulations and Information*, the *Fall Deer and Turkey Hunting Regulations and Information*, the *Waterfowl Hunting Digest*, and the *Migratory Bird Hunting Digest*. For more information visit mdc.mo.gov/node/130 or permit vendors.

ASK
THE

Ombudsman



Q. I was walking in my yard and found a hole with lots of what looked like wasp nests around it, and small pieces of the paper nest were inside the hole. Can you tell me what occurred there?

Your photo is of a yellow jacket nest that has been dug up by a mammal, probably a skunk or a raccoon. Black bears will also dig up the nests, as will armadillos and badgers. The underground nests are often raided at night by mammals seeking the wasp larvae to eat. Yellow jackets are small, black and yellow wasps that can inflict a painful sting and are a particular threat to persons allergic to their stings or persons who are stung multiple times. They establish colonies in the

ground in abandoned animal burrows or will sometimes nest above ground in enclosed spaces. The colonies don't normally survive the winter in Missouri, but the fertilized queens overwinter in protected areas outside of the nest to start new colonies in the spring.

Q. What are Missouri's regulations on the use of "pop-up" type blinds for deer and turkey hunting?

The regulations in the *Wildlife Code of Missouri* pertain only to portable blinds used on conservation areas and areas managed by the Conservation Department, not to blinds used on private land. Unlike tree stands, portable blinds must be disassembled and removed daily. Placement of a blind on public land does not entitle a hunter to exclusive rights to hunt in the area where it is erected. Hunting from a camouflaged blind can make it difficult for other hunters to be aware of your presence. Although not required, as a safety measure we recommend using hunter-orange on or above the blind to

make it more visible to other hunters in the area.

Q. While dove hunting in the Missouri River bottom last year, I observed dozens of hawks circling and sailing down the line of bluffs at the edge of the floodplain. Why were so many hawks congregated that way, and where were they going?

September is a prime time for fall bird migration in Missouri and major rivers are often used as migration routes. Species such as broad-winged hawks, which overwinter in Central and South America, pass through Missouri on their way south. After spending the night in forested areas nearby, they resume the migration each day between 8 and 10 in the morning, when the sun has warmed the earth enough to create rising updrafts of air. To conserve energy for the long flight, they circle in the updrafts (thermals) that often occur along bluff lines and cliffs. After spiraling upward on the rising air, they will make a long glide in the direction of the migration until they lose enough altitude to need another thermal lift upward. Flights of several hundred to a thousand broad-winged hawks have been observed during the peak of fall migration in late September. Swainson's hawks will also migrate through western parts of Missouri in large numbers. They will concentrate in front of grassland or cropland fires to forage for rodents, snakes, and insects that flee from the fire.

Ombudsman Tim Smith will respond to your questions, suggestions, or complaints concerning the Conservation Department or conservation topics. Address: PO Box 180, Jefferson City, 65102-0180 Phone: 573-522-4115, ext. 3848 Email: Ombudsman@mdc.mo.gov



Report Banded Turkeys

If you shoot a turkey in Marion, Monroe, Putnam, or Schuyler counties this fall, be sure to check it for leg bands. Reporting your harvest will help ensure the most effective management of Missouri's wild turkeys in the future.

Conservation Department and University of Missouri researchers have banded more than 260 turkey hens, gobblers, and jakes (juvenile males) in the four-county area during the past year as part of a research project. The project's goal is to gather information about the birds' reproduction and survival, with an eye toward increased effectiveness of monitoring wild turkey populations.

The cooperation of partners and landowners has been invaluable in trapping and banding turkeys. Now it is hunters' turn to pitch in by reporting banded birds they shoot. Each band is engraved with a toll-free phone number that finders can use to make reports.

More information about the turkey research project is available as part of the *2013 Missouri Wild Turkey Harvest and Population Status Report*, at mdc.mo.gov/node/28711.

Missouri Selected to Pilot Online Duck Stamp Sales

Missouri is one of five states chosen by the U.S. Fish and Wildlife Service for a test run of online duck stamp sales, a convenience for sportsmen. Hunters must buy a Federal Waterfowl Conservation Stamp (Duck Stamp) to hunt waterfowl. Many wildlife enthusiasts and stamp collectors also buy the stamps, which sell for \$15. Proceeds from the sale of duck stamps support waterfowl research and conservation programs. In the past, the stamps have been available at U.S. Post Offices, Conservation Department offices, and some retail permit vendors, but not online. This year paper stamps will still be offered at post offices and Conservation Department offices, but not at retail permit vendors. Instead, hunters will have the option of buying waterfowl E-Stamps at permit vendors or online at mo.wildlifelicense.com. Hunters will receive

an E-Stamp at the time of purchase, and a paper duck stamp will be sent to them through the mail. Hunters can use their E-Stamps immediately and for 45 days following purchase. After 45 days, they must sign and carry the paper duck stamp. The E-Stamp will have a \$2.50 convenience fee for handling and mailing. The decision not to sell paper duck stamps through retail vendors came from federal officials after printing of the 2014 *Early Migratory Bird Hunting Digest* was complete. As a result, the digest says hunters can buy duck stamps from some retail vendors, without mentioning details of purchasing E-Stamps.

Elizabeth Schwartz Joins Hall of Fame

The induction of conservation pioneer Elizabeth R. "Libby" Schwartz into the Missouri Conservation Hall of Fame serves as a reminder that nominations for this honor are open from now until Oct. 1.

Schwartz became Missouri's 40th Conservation Hall of Fame member in a ceremony June 20 at Conservation Department Headquarters in Jefferson City. Elizabeth Reeder, PhD, taught biology classes at the University of Missouri-Columbia, where she met her future husband and professional collaborator, Charles W. Schwartz. The multitalented couple helped set the standard for generations of conservation professionals to come.

The Schwartz family literally lived their work, spending countless weeks studying, photographing, and filming wildlife in Missouri, Alaska, Hawaii, Puerto Rico, Mexico, Africa, and other locales during a career that spanned seven decades. Together, they conducted pioneering field research on prairie chickens and box turtles. Their 24 films won 23 national and international awards. They also authored numerous *Conservationist* articles and scientific as well as popular publications. Their book *The Wild Mammals of Missouri* is so comprehensive, so rich in detailed information and life-like illustrations, its subjects practically jump off the pages. First published in 1959, it remains the definitive text for university-level mammalogy courses today.

Libby's insatiable intellectual curiosity led her to take college courses well into her 80s and



Elizabeth R. "Libby" Schwartz was inducted into Missouri's Conservation Hall of Fame on June 20.

travel to Alaska to see for herself the melting glaciers she was reading about in the news. She was born on Friday, Sept. 13, 1912, and died on Friday Sept. 13, 2013. While her passing is an incalculable loss to Missouri and the world, perhaps her greatest legacy are the thousands of professional and citizen conservationists who have been and continue to be inspired by her work.

The Conservation Commission needs your help identifying citizen conservationists who deserve recognition through the Missouri Conservation Hall of Fame Program and the Master Conservationist Program. The hall of fame recognizes deceased individuals, while the Master Conservationist Award honors living or deceased citizens. Those who can be considered for either honor are:

- **Citizens** who performed outstanding acts or whose dedicated service over an extended time produced major progress in fisheries, forestry, or wildlife conservation in Missouri.
- **Employees** of conservation-related agencies who performed outstanding acts or whose dedicated service over an extended time produced major progress in fisheries, forestry, or wildlife conservation in Missouri.

Anyone can submit a nomination, which should include a statement describing the nominee's accomplishments and a brief biography.

Criteria and nomination forms for each award are available at mdc.mo.gov/node/7763 and mdc.mo.gov/node/7759. Please submit nominations by Oct. 1 to Denise Bateman, Missouri Department of Conservation, PO Box 180, Jefferson City, MO 65102-0180, Denise.Bateman@mdc.mo.gov.

Videos Explain Waterfowl Reservations

If you are new to duck hunting in Missouri, the Conservation Department has new videos that will interest you. The series of videos at mdc.mo.gov/node/3718 explains how the Quick Draw, Every Member Draws, and One Member Draws reservation systems allocate hunting opportunities on 15 managed wetland areas. All four videos can be viewed in less than 30 minutes. Additional information is available in the 2014–2015 Waterfowl Hunting Digest, which is available from hunting permit vendors statewide or at mdc.mo.gov/node/303.

New Foundation Promotes Bear Awareness

A new foundation has been formed to help educate Missourians about their growing black bear population and foster an understanding for the habitats in which they live.

The Missouri Black Bear Foundation (MBBF) is a 501(c)(3) organization dedicated to informing the public and landowners about black bear conservation efforts in the Show-Me State. MBBF plans to conduct educational programs and coordinate field research in partnership with the Conservation Department and other conservation groups to foster better understanding of black bears.

"Rebuilding the black bear population, what they need to survive in their natural habitat, and what we can do to educate people to help minimize conflicts with bears are the main goals," says MBBF founder Terry Woodruff. "Through MBBF's time and resources, we can help track and learn more about how to support the return of this iconic animal to the state of Missouri." For more information about MBBF, visit moblackbears.org.

100 Years Since

The flapping masses sounded like muffled thunder and created their own breeze. Thousands and

[NEWS & EVENTS]

(continued from Page 7)

thousands of passenger pigeons would fly low across the sky and block out the sun. It was a startling, but not uncommon, scene for the pioneers heading west in the early to mid-1800s.

However, in roughly 40 years, the estimated 3 to 5 billion passenger pigeons would be brought to extinction. Possibly the most abundant bird species on the planet, passenger pigeons were decimated through market hunting. Thousands of pounds of passenger pigeons and other game birds were shipped to restaurants and hotels in New York, Boston, and London.

It's a sad tale, but one we can learn from. How can we prevent history from repeating itself?

The Missouri Department of Conservation (MDC) works to conserve Missouri's natural resources so we don't relive the tragedy of the passenger pigeon. Animals that were once on the brink statewide, such as white-tailed deer and wild turkeys, have been restored to healthy populations. Also, conservation projects are underway in Missouri that include the reintroduction of elk to our landscape, breeding programs for the hellbender in our Ozark waterways, and much more. The Department also works with

private landowners to create wildlife-friendly habitats, remove invasive species, and plant native plants.

The 100th anniversary of the extinction of the passenger pigeon is Sept. 1, 2014. Find fresh ideas on how to be a good steward of our resources in Missouri on these websites and at upcoming passenger pigeon-related events.

- Project Passenger Pigeon at passengerpigeon.org
- GrowNative! at grownative.org
- Audubon at Home at athome.audubon.org
- Project FeederWatch at feederwatch.org
- The Great Backyard Bird Count at gbbc.birdcount.org

Passenger pigeon-related events:

- » **Protecting Our Natural Treasures for the Future: Remembering the Passenger Pigeon**
Saturday, Sept. 27; 3:30–8 p.m.
Rockwoods Reservation,
Wildwood; 636-458-2236
- » **A Day at the Confluence, Celebrating National Hunting and Fishing Day**
Saturday, Sept. 27, 10 a.m.–3 p.m.



WHAT IS IT?

Snapping Turtle Hatchling | *Chelydra serpentina*

Snapping turtles are large aquatic turtles with big, pointed heads, long, thick tails, and small lower shells. Upper shell length is usually 8–14 inches, and they can weigh between 10–35 pounds. They commonly occur in farm ponds, marshes, swamps, sloughs, rivers, and reservoirs — anywhere there is permanent water. They prefer bodies of water with a mud bottom, abundant aquatic vegetation, and submerged logs. June is the usual month for egg-laying. The female digs a nest in deep sand or loose soil and deposits usually 20–30 eggs. These hatch 55–125 days later, depending on environmental conditions. Snapping turtles help to keep the populations of many aquatic animals (and aquatic plants) in check. Their diet includes insects, crayfish, fish, snails, earthworms, amphibians, snakes, small mammals, and birds. However, up to a third of the diet may consist of aquatic vegetation. Carrion may also be consumed. —photograph by Noppadol Paothong



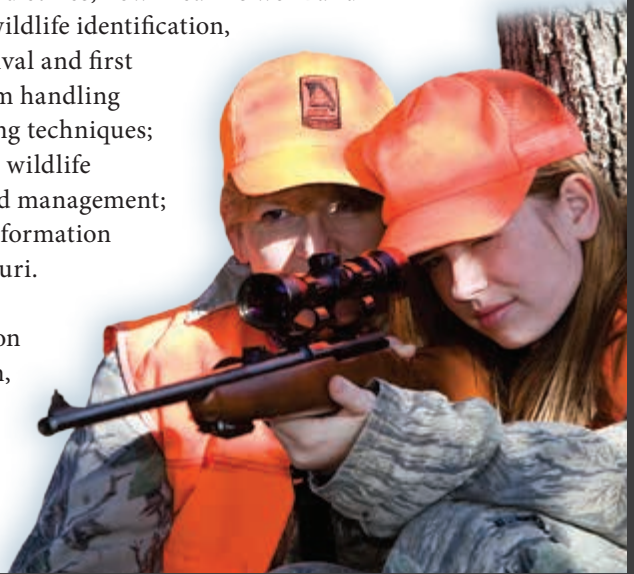
A mounted passenger pigeon on display at St. Joseph Museum in St. Joseph, Missouri. The 100th anniversary of the passenger pigeon's extinction is this month.

DID YOU KNOW?

Conservation makes Missouri a safe place to hunt.

Hunter Education

- » **Nine hundred and fifty** hunter education classes were offered, and more than 22,000 students were certified last year.
- » **Hunter education and bowhunter education** are taught in more than 160 schools as part of the curriculum.
- » **Classes are taught** by Department staff and more than 1,000 volunteers.
- » **Three options for completing** the hunter education certification: students may choose to take the knowledge portion of the course online, via home study of the manual, or in a classroom session. All three options also require completion of a 4-hour skills session.
- » **You must be hunter-education certified if:** you plan to hunt alone with a firearm, you were born on or after Jan. 1, 1967, or you are 16 years of age or older. You must take and pass a hunter education course or purchase an Apprentice Hunter Authorization before you can buy a permit. You must be at least 11 years old to take the Hunter Education class.
- » **Missouri's Apprentice Hunter Program** is available for experienced hunters who want to share the joy of hunting with a friend or relative, and it's for the curious who want to try hunting before making the commitment to become hunter-education certified. Learn more at mdc.mo.gov/node/10054.
- » **Topics covered** in the hunter education course include: hunter responsibility and ethics; how firearms work and firearm safety; wildlife identification, game care, survival and first aid skills; firearm handling skills and hunting techniques; awareness about wildlife conservation and management; and rules and information unique to Missouri.
- » **For more information** on hunter education, including where to enroll, visit mdc.mo.gov/node/3095.



Columbia Bottom Conservation Area,
St. Louis; 314-877-6019

» Remembering the Passenger Pigeon

Thursday, Sept. 11, 6–8 p.m.

Runge Conservation Nature Center,
Jefferson City; 573-526-5544

» Leaving the Station: The Last of the Passenger Pigeons

Friday, Sept. 12, 6:30–7:30 p.m.

Cape Girardeau Conservation Nature Center,
Cape Girardeau; 573-290-5566

» Film Premier: From Billions to None

Thursday, Sept. 18, 7–8:30 p.m.

Cape Girardeau Conservation Nature Center,
Cape Girardeau; 573-290-5566

» Nature Center at Night

Thursday, Sept. 18, 5–8 p.m.

Cape Girardeau Conservation Nature Center,
Cape Girardeau; 573-290-5566

» Lost Birds — Activity and Outdoor Movie Night

Friday, Sept. 12, 6:30–9:30 p.m.

Springfield Conservation Nature Center,
Springfield; 417-888-4237

» Lost Birds — Remembering Missouri's Extinct Birds

Saturday, Sept. 13, 1–4 p.m.

Springfield Conservation Nature Center,
Springfield; 417-888-4237

—by Angie and Aaron Jungbluth

Bring Your Photos to Prairie Day

Nature lovers and nature photographers in particular won't want to miss the 2014 Prairie Day Oct. 11 in Cole Camp. Sponsored by the Missouri Master Naturalists Hi Lonesome Chapter, this event offers prairie hayrides, children's games and crafts, primitive skills demonstrations, mist-netting, and bird banding demonstrations and, after dark, stargazing. One special event will be an amateur nature photography contest judged by Conservation Department Photographer David Stonner. The contest has a youth division for photographers 18 and younger and an adult division. Cash prizes will be awarded for first, second, and third places in each division. Photographs must be submitted between 8 and 10 a.m. Oct. 11 at the Cole Camp Chamber of Commerce at the corner of Highway 52 and Olive Street in downtown Cole Camp. For full

contest rules and other details, visit extension.missouri.edu/masternaturalist/colecamp, and select "Hi Lonesome." Field events will be-

gin at 10 a.m. at Wayne Morton Prairie. Follow signs to the area 1 mile west of Cole Camp on Highway 52.



*An
Ozark
Tradition*

FISH GIGGING

BY ANDY TURNER | PHOTOGRAPHS BY DAVID STONNER



Gigging season on Ozark
streams and rivers runs from
Sept. 15 through Jan. 31.

IN MISSOURI, THE CHANGING OF THE seasons signals a shift in how we enjoy the outdoors. As winter turns to spring, the crappie start biting, turkeys are gobbling, and Missouri's fish hatcheries are hosting trout-park openers. The arrival of summer gets Missourians out floating streams, spending time at the lake, and catching catfish. Fall and winter bring deer season, duck hunting, and an Ozark tradition called "gigging."

Fish gigging is a unique experience born out of necessity and adapted to sport. This rich tradition has become a staple of Ozark living for many. It draws the attention of those outside the Ozarks, and for good reason. There are not many fishing opportunities like it, and it is a heck of a good time! Gigging is an important tradition for many Ozarks residents. The Eleven Point River Anglers Association, based in Alton, Missouri, includes a diverse group of anglers with a long history and deep concern for the Eleven Point River. Their experience and stories contribute to the culture of the area, and they are invested in sharing this exciting sport with the next generation.

A battery-powered gigging light setup with compact fluorescent bulbs and a power inverter eliminates the need for noisy generators while gigging.



What is Fish Gigging?

Gigging consists of spearing fish rather than catching them with a hook and line. It is primarily a nighttime activity and is most effective in shallow, clear water. Fish harvested by gigging are known generally as "suckers." They are collected in this manner because traditional angling methods are not effective for catching these species.

Giggers usually stand at the bow of a flat-bottomed boat outfitted with a bright light and a rail to lean upon. They hold their fork-tipped spears over the surface of the rushing water, scanning for fish. Once they spot a sucker, they try to gig it with their spears. It sounds straightforward, but it is challenging. The boat is moving, daylight is gone, it's cold outside, and the fish are quick.

Necessity Becomes Sport

Fish gigging on the Eleven Point River and throughout the Ozarks began as a necessity. Millard Barton, 85, a member of the Eleven Point River Anglers Association, remembers a time when getting dinner was not as easy as taking a car ride to the grocery store.

When Millard was a boy, putting food on the table consisted primarily of what his family grew, raised, or hunted. He fondly recalls spending nights with his father, 72 years ago, gigging suckers to feed his family in the lean winter months.

As the culture and economy of the Ozarks changed, gigging began shifting toward sport. It became a social event and recreation for Ozark families. For local communities, it provided an opportunity to pause and spend quality time with family and friends. Opening night of gigging season was a major event. Families would show up at boat ramps throughout the Ozarks to gig, fry fish, and socialize. A distinctive sport was born that begins with a cold night on the river and ends with a hot, shared meal.

Fish Gigging Basics

WHAT TO GIG Fish described as "Other Fish" in the *Wildlife Code of Missouri* are the only fish species that may be taken when gigging. The most common targets are the northern hogsucker and species of redbhorse commonly referred to as "yellow suckers." It is not necessary to differentiate between the different types of yellow suckers, but it is important to be able to tell a sucker from sport fish like smallmouth bass and walleye.



Common gigs used by giggers throughout the Ozarks. A good gig is an invaluable piece of equipment to own.

Right: The Eleven Point River Anglers Association includes a diverse group of anglers with a long history and deep concern for the Eleven Point River.



WHERE TO GIG The most popular places for fish gigging are medium-sized rivers in the Ozarks that offer clear water and can be navigated with a flat-bottomed johnboat. Some of the most popular waters to gig are the Current, Eleven Point, Meramec, Gasconade, and James rivers. Once on the water, the boat driver roams the river searching for suckers. Stream shallows offer the best opportunity for gigging success.

REGULATIONS Gigging season on Ozark streams and rivers runs from Sept. 15 through Jan. 31. The daily limit is 20 fish in the aggregate, and on the Current River from Cedar Grove to the Arkansas line no more than five hogsuckers can be included in the daily limit. See the *Wildlife Code of Mis-*

souri or contact your local conservation office for more information (see Page 3). Game fish cannot be harvested by gigging. Giggers should verify fish clearly prior to gigging so that game fish are not gigged illegally.

GETTING STARTED Sign up for a free gigging workshop hosted by the Department of Conservation. These workshops are held throughout the gigging season. They consist of an introduction to gigging, a trip on the water, and a fish fry. Contact your local Department of Conservation office for details on upcoming workshops (see Page 3).

Successful giggers find suckers
on the bottom of the Eleven
Point River near Riverton.



Equipment

Gigging generally requires a boat, lighting, a gig, and a knowledgeable friend to drive the boat.

GIGGING BOAT Prior to modern boats and jet motors, Millard Barton and his father built their first boat out of wood. They would float downstream, steering their motorless boat with poles while they gigged. Most modern gigging boats are equipped with a jet motor and a rail on the bow. Jet motors don't have a prop — they use an internal impeller that propels the boat by discharging water at a high velocity. The advent of the jet motor helped turn gigging into sport. They made the river more navigable, allowing people to travel up and downstream, even in shallow water.

LIGHTING Early giggers were known to burn pine knots in metal baskets for illumination. Millard Barton recalls his first lighting “system,” which was a couple of kerosene lamps fixed to the front of a motorless boat. Today some use floodlights while others fashion reflective housings around bulbs to reflect light into the water. A gas generator usually powers these systems; however, more and more people are installing battery-powered systems that run LED lights. This is not surprising, since eliminating generator noise adds to the evening's enjoyment.

THE GIG While most aspects of gigging have improved over time, the gig has withstood the test of time. Most gigs have three or four prongs, and the best ones have been forged and tempered by local blacksmiths. A strong gig will last for many years and is an important piece of the tradition.



A skilled gigger like Mark Holman makes the sport seem effortless.

Preparing Your Catch

Cooking and eating suckers is just as enjoyable as catching them. Cleaning a sucker requires scaling the fish, filleting off the meat, and scoring the fillet. The fillet is then breaded and deep-fried. A sucker fillet has bones within the meat. Scoring and frying the meat dissolves the bones and makes for a delicious meal. A simple and delicious recipe for cooking suckers is:

Ingredients:

- » salt
- » pepper
- » cornmeal (or flour)
- » vegetable or peanut oil
- » sucker fillets

Cooking:

1. Season cornmeal with salt and pepper (add any other spices you like).
2. Score fillet (make a series of cuts a quarter-inch apart that are half the thickness of the fillet).
3. Roll fillets in cornmeal mix.
4. Fry in oil until light brown.

Ingredient substitution: Nadine Barton, of the Eleven Point River Anglers Association, suggests substituting home-rendered hog lard in place of the oil. Her recipe has been perfected through four generations of giggers.



PHOTOGRAPHS BY JIM RATHERT

Many giggers have a host of stories that go along with the first gig that was given to them.

Gigging takes practice and patience. Those who have been doing it for years can gig a swimming sucker by throwing the gig like a spear. A skilled gigger like Mark Holman, of the Eleven Point River Anglers Association, makes the sport seem effortless. Years of practice allow him to locate and gig suckers in one fluid motion as the boat moves through the water.

Regardless of whether it is your first or 50th time at the bow, or if you hit your mark, gigging is a good time and a great social activity. So share in this exciting piece of Ozarks culture and enjoy a unique way to spend time on the river in cooler months. ▲

Andy Turner has been a fisheries management biologist for the Conservation Department since 2010. Prior to this position, he was a streams biologist in Arkansas and completed a Master's degree in Fisheries and Wildlife at the University of Missouri.



A Tale of Two Mentors

Do you know a youngster with a spark for hunting?
Pass that torch.

BY JIM LOW

Eight-year-old Julian Courtois started hunting deer with his father, Joe, at age 6. Every boy craves time with his father, but for Julian, the hunt is more than an opportunity for time with dad. It's a consuming passion.

They decided to try their hand at turkey hunting in 2012. Their home area in New Madrid County is not one

of Missouri's top turkey hunting destinations. Hunters there checked just 87 birds during the 2014 regular spring turkey season, compared to the average of 380 turkeys per county. But this determined youngster not only managed to bag a turkey during his first season, he checked in a mature gobbler with 1½-inch spurs.

Julian, now 8, also has tagged three deer, the largest of which was a 230-pound 7-pointer. I had difficulty imagining a hunter so young having the patience needed for deer and turkey hunting. But the morning I spent with



Then, to our dismay, we heard a single wing flap above us. Moments later a big gobbler sounded off in a tree to our north. We had walked right under him as we entered the field. A little after 6 a.m., four gobblers and three hens flew down from the tree overhead and into the middle of 80 acres of soybean stubble in front of us. They milled around for several minutes, studying our blind. They were clearly spooked. Then they were joined by a mature gobbler, which came in from the south end of the field. He had roosted in a tree near where Joe stood when he put the flock to bed the night before. It was official. Every turkey in the neighborhood had the drop on us.

The field flock moved off to the east, directly away from us. Meanwhile, Joe glimpsed the boss gobbler



Julian Courtois started hunting when he was 6 years old, thanks to his father's mentorship. Julian hunts for turkey and deer, and he goes fishing whenever he can.

flying down and disappearing into a strip of brushy Conservation Reserve Program land. The big bird took up an unassailable position in the middle of a field as flat and bare as a pool table and refused to budge.

At this point, most hunters would be thinking of breakfast. Instead, Julian was fretting that his dad, who works for an agri-chemical company, might have to stop hunting at noon and go to work. Spring is Joe's busiest time, and the day's bright sun and dry breeze meant fields were ready to work.

"Can we hunt this afternoon?" Julian asked. He had his heart set on hunting all day if that was what it took to bag a turkey. But the situation didn't look promising, and there was work to consider.

We tried to maneuver on the big tom, using a thicket between two fields to screen our movement. As Joe and I laboriously threaded our way around saplings and cat briars, I noticed that Julian, who can't be much over 4 feet tall, was slipping through the undergrowth with the agility of a fox.

We sneaked within a couple hundred yards of where Mr. Big was gobbling operatically for an audience of three hens. He answered Joe's calls but showed no inclination to budge, so we left that bird and set up where we last saw the flock that was sitting on our heads at daybreak.

Joe called every 15 to 30 minutes for the next two hours. We ate a few breakfast bars and swapped hunting stories in hushed tones until 9 a.m. With no turkeys in

him and his dad proved that this was simply a failure of my imagination.

We got to our hunting spot well before dawn on opening morning of the youth turkey season. Joe quietly set up a tent-type ground blind along the wooded edge of a drainage ditch, and we climbed inside to wait for shooting light. The Milky Way stood out like a diagonal brush stroke above the disked soybean field, and Venus hung just above the eastern horizon, bright as a Coleman lantern. A light breeze stirred the air, but at 55 degrees, it was excitement, not a chill, that gave Julian goose bumps. In spite of his excitement, Julian surprised me by showing near-adult control of unnecessary movement and noise. He was alert to every sound as he scanned the gradually brightening landscape.



sight or hearing, Julian did what any smart turkey hunter would do. He laid his head in his dad's lap and got a little shut-eye. But he was instantly alert when a pair of gobblers appeared in the wooded CRP strip about 150 yards to the north.

The gobblers responded to Joe's calling and angled slowly within 70 yards of us. Nothing could persuade them to come any closer. Their departure left Julian plenty of time to wonder whether they were still spooked from finding us under their roost, if they were leery of our blind, or simply hesitant to approach any hen for fear of angering the boss gobbler. Imponderables like these are part and parcel of turkey hunting, and Julian drank it in.

Joe decided work could wait. Julian was elated. I had a long drive ahead of me, so I bade the pair of hard-core hunters farewell around 1 p.m.

The afternoon hunt produced only a sighting of a pair of hens. But two weeks later, during the regular turkey season, they were in their blind again. Joe lured a pair of 20-pound gobblers within range, and at 10:20 a.m. both gobblers succumbed to almost simultaneous shots by father and son.

"Family" Ties

Essie Reithemeyer is a serious deer hunter. In more than 50 years, she has missed only one opening day, on account of back surgery. At "92 years young," her flashing

eyes and quick wit belie her years. Sitting down over coffee, my questions loosed a cascade of hunting memories from Essie and her grandson Michael Hadley.

Those memories took them back almost 30 years, to when Michael was just a lad. His earliest hunting memories were of waking up to the sounds and smells of Essie cooking breakfast in the Reithemeyer's hunting cabin on frosty November mornings.

"She was the camp alarm clock," he recalled.

Then there was the time when 6-year-old Michael shot his first deer, sitting in his dad's lap. And the story about the 10-point buck that gave Essie such a case of buck fever that she missed with her first shot and couldn't get a second cartridge into the chamber of her trusty .257 Roberts rifle.

"I'll never forgive myself for not taking my time," she said, shaking her head, "but that deer was so big it looked like a horse to me."

There were recent memories, too. Michael recalled sitting in the tree stand with her last November and trying his best to talk her into shooting a medium-sized 8-point buck.

"She wouldn't do it," he said. "It wasn't big enough for her. She sticks to her convictions!"



Essie Reithemeyer has been hunting for more than 50 years, and she has mentored Michael Hadley for nearly 30.

“Yeah,” Essie agreed, “I don’t want a little one.”

Having friends and family like Michael to share such memories makes reminiscing all the sweeter. In the midst of the stories, Essie mentioned that neither of her daughters and only one of her 11 grandchildren hunts with her.

That’s Michael, right?” I prompted.

The two shared a glance and laughed softly.

“I call her grandma, but we’re not blood kin,” said Michael.

Essie explained that her late husband, Earl, worked with Michael’s dad at McDonnell Douglas. Little Michael tagged along with his dad on opening day of the 1987 deer season. Essie saw that he shared her enchantment with nature, and she took him under her wing. His visits to the Reithemeyer farm near Louisiana eventually stretched into lazy summer days spent exploring the Reithemeyers’ land and helping with farmwork. What began as hunting together matured into a bond as strong as blood.

Deer hunting remains a sturdy thread in the fabric of the time they share outdoors. They plant food plots, build deer stands, and chart the next year’s hunting strategy

throughout the year. And, of course, they reminisce over past years’ hunts.

Essie says she is holding out for a 10-pointer this year, but her biggest trophy sat beside her, sipping his coffee, that day in her kitchen.

“I call him my adopted grandson, ’cause I helped raise him out there,” she says. “He turned out real good.”

Julian and Michael were fortunate enough to find mentors close to home. Not every child is similarly blessed. If you love hunting, fishing, trapping, hiking, camping, nature photography, or just spending time outdoors, ask yourself if you know a girl or boy who seems similarly inclined but has no one to take them. As Essie Reithemeyer discovered, outdoor mentorship can yield undreamed-of rewards.

If you don’t feel confident stepping right into outdoor mentorship, look into the Conservation Department’s multifaceted Discover Nature program at mdc.mo.gov/node/3115. Or find out about becoming a Conservation Department volunteer at mdc.mo.gov/node/21451. ▲

Jim Low has been a newspaper reporter and magazine editor, but his most rewarding work came during 25 years writing news and magazine articles for the Conservation Department and, before that, the Arkansas Game & Fish Commission.

Bringing Back the Birds

Full life-cycle
bird conservation



Orchard oriole

The stewardship of migratory birds is complicated because they are not stationary year-round, and efforts must be coordinated in different parts of the world.



Carolina chickadee



Pileated woodpecker



Carolina wren

Short-distance migrants, shown above, shift their ranges only slightly. Even some birds that are considered residents may move slightly south to find food.

**BY BRAD JACOBS
AND SARAH KENDRICK**

Many Missourians enjoy watching birds in their backyards or at conservation areas, counting different species, and keeping life lists. Many also look forward to fall when hunting seasons for waterfowl and upland game birds open.

While we may think of birds that reside in our state as Missouri's birds, in reality many of those birds are migratory and can spend nearly eight months of the year in different countries. Working with international partners on bird conservation efforts is therefore a win-win scenario — if birds don't have the necessary resources on the wintering grounds, it directly impacts our enjoyment of those birds here at home.

To Migrate or Not to Migrate

All birds are generally considered residents or migrants. Resident birds spend all year in the same general location. Migrants include birds that breed in Missouri and then travel south for the non-breeding season to locations where insects, seeds, and fruits are readily available. The ranges of most resident birds and the migration patterns of some migrant birds are well known, especially those that spend all or part of the year within the United States and Canada. There are 431 species of both resident and migratory birds that have been observed and documented in Missouri.

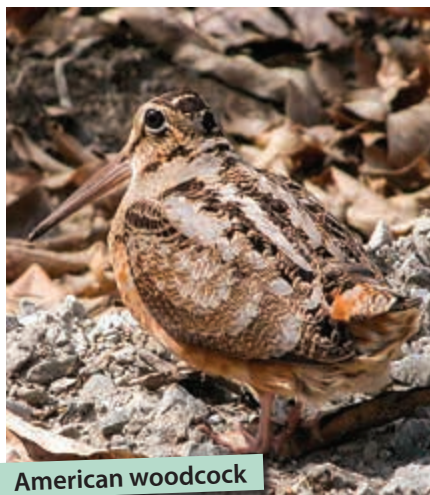
Ornithologists, or bird scientists, categorize migrants into three basic subsets based on their migratory behavior: short-, medium-, and long-

distance migrants. Short-distance migrants shift their ranges only slightly. For example, in the western United States, some birds migrate from higher to lower elevations from a mountaintop to a valley. In Missouri, birds may move from upland areas to bottomland habitats in search of food. Even some birds that are considered residents such as the pileated woodpecker, tufted titmouse, black-capped and Carolina chickadees, white-breasted nuthatch, Carolina wren, and northern cardinal may move slightly south to find food, but there are always a few individuals that stay put.

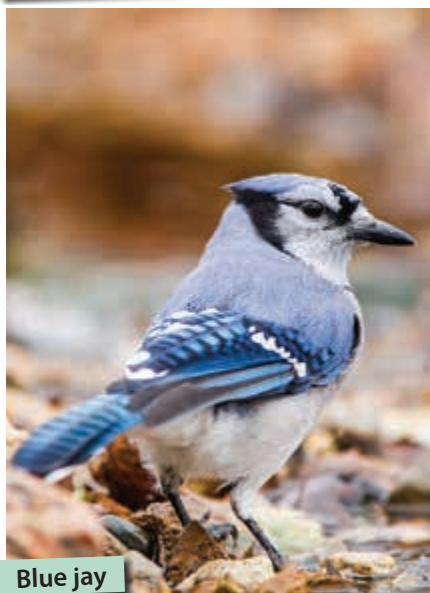
Medium-distance migrants may leave Missouri in the winter and move to a nearby state or several states to the south in search of food. Much of these birds' ranges remain within the United States. This type of migration is usually in response to local weather events or lack of food. Likewise, birds that nest farther north spend the winter months in Missouri where it's warmer. Examples of medium-distance migrants include double-crested cormorants, pied-billed grebe, turkey vultures, American woodcock, American kestrel, eastern phoebe, blue jay, house wren, American robin, brown thrasher, eastern towhee, and field sparrow.

Long-distance migrants usually leave Missouri, the United States, and Canada altogether and winter in Mexico, Central America, the Caribbean, or South America. The stimulus for long-distance migration is controlled primarily by changes in day length, a response to temperature, and the availability of food.

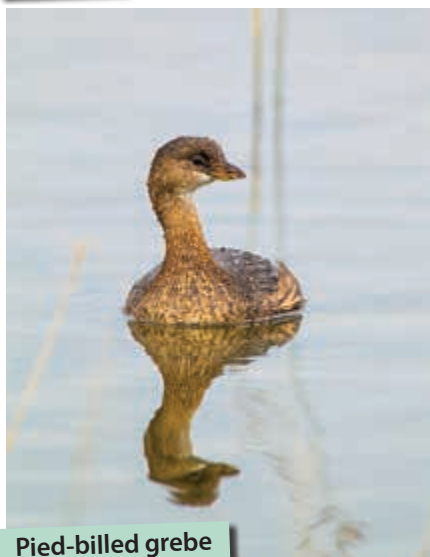
Scientists have studied long-distance migrants for many years and their work has shown that long-distance migrants have amazing capabilities to use cues from the position of the sun and stars



American woodcock



Blue jay



Pied-billed grebe

Medium-distance migrants may leave Missouri in the winter and move to a nearby state or several states to the south in search of food.

during migratory flights in the day and night, respectively. Some are thought to use the magnetic fields of the earth and perhaps even employ "brain maps" or have genetic bases for following migratory patterns.

Ornithologists have speculated that many birds likely use a combination of these cues to navigate their migratory pathways. Examples of long-distance migrants are Mississippi kite, peregrine falcon, American golden-plover, upland sandpiper, least tern, yellow-billed cuckoo, common nighthawk, chimney swifts, eastern kingbird, red-eyed vireo, purple martins, wood thrush, ovenbird, yellow-breasted chat, scarlet tanager, dickcissel, bobolink, and orchard oriole.

Off the Beaten Path

Most species of birds can fly, and because of this ability — and to the delight of many citizens who enjoy them — can end up in many unexpected places around the world. About 90 of the 431 bird species on the Audubon Society of Missouri's Annotated Checklist of Missouri Birds are not regular visitors to Missouri. This official checklist for Missouri, online at mobirds.org/RecordsCommittee/MOChecklist.aspx, includes the exciting, once-in-a-lifetime birds that passionate birders will drive hours for a chance to see.

Once, a garganey and a smew, two species of ducks, migrated down the wrong continent from their normal route in the Eastern Hemisphere and were seen in 2014 in Chariton County and 2001 in St. Charles County, respectively. A band-rumped storm-petrel and sooty tern, both seabirds, were carried to Missouri by a hurricane and died from the exhaustion of being carried aloft unable to land for days. A green violetear hummingbird wandered

north from Mexico and showed up once at a nectar feeder in the Ozarks. A fork-tailed flycatcher overshot its winter home in the tropics of northern Brazil, Venezuela, and eastern Colombia by a long shot, and was carried by the wind to northwest Missouri. These are just a few of the many fascinating examples of rare birds appearing in Missouri as the result of strange or adverse conditions during migration.

Shortening the bird list by these fascinating vagrants and accidental species leaves approximately 335 species that annually are observed by birders in Missouri. Of these 335 species, 170 annually nest and raise their young in Missouri. About half of those migrate during the non-breeding season outside of the boundaries of Missouri, and one-third migrates to countries outside the United States.

Full Life-Cycle Bird Conservation

Full life-cycle bird conservation is the conservation of habitats and resources that birds use throughout their lives in all parts of the world, not just on the breeding or winter grounds. Because birds may live for many years or even decades, the phrase full life-cycle bird conservation is quite fitting.

The Conservation Department is a veteran supporter and promoter of full life-cycle conservation. The Department's mission is to protect and manage the forest, fish, and wildlife resources of the state and to facilitate and provide opportunities for all citizens to use, enjoy, and learn about these resources. The stewardship of migratory species is complicated, because birds — just like bats, butterflies, and dragonflies — are not stationary year-round, and efforts must be coordinated in different parts of the world.

Long-distance migrants usually leave Missouri, the United States, and Canada altogether and winter in Mexico, Central America, the Caribbean, or South America.



Summer tanager



Upland sandpiper



Yellow-breasted chat

The annual life cycle of a bird may include bottlenecks or pinch-points of high-quality habitat and limiting factors anywhere on breeding and non-breeding grounds and along their migratory journeys. The Department works to alleviate these challenges in Missouri by protecting public land and managing habitats within that land to benefit many kinds of birds.

But challenges in other parts of the world have the potential to limit the success of bird populations either during migration or surviving throughout the winter months. Thus, these areas also must be managed, conserved, and protected. In short, conservation efforts in Missouri need to be coupled with efforts in other parts of the world to be truly effective.

Because half of Missouri's breeding species leave during the non-breeding season, the Department works with many trusted and critically valuable partners outside of Missouri. Partner efforts ensure the protection and enhancement of high-quality migratory stopover habitat, breeding sites farther north for birds that winter in Missouri, and wintering sites in the tropics for birds that breed in Missouri and migrate south.

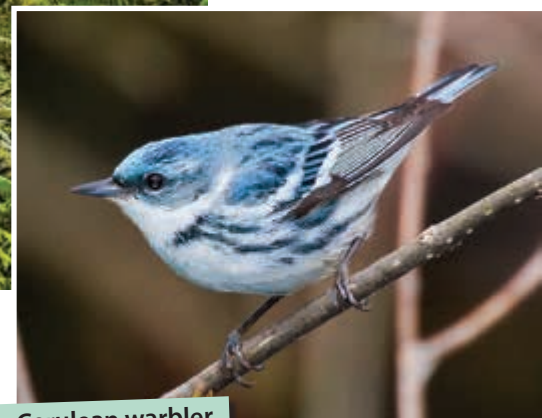
Southern Wings

State fish and wildlife agencies have been building a strong, highly-functional partnership that links states with national-level bird organizations like the National Audubon Society, American Bird Conservancy, and others promoting international bird conservation. These agencies spend considerable time, money, and effort to ensure that good bird habitat exists within their states.

Southern Wings is a partnership that supports a common vision of providing funding for bird conser-



Conservation efforts of the Southern Wings partnership include working with local landowners around the Cerulean Warbler Bird Reserve in Colombia, South America.



Cerulean warbler

vation projects in Mexico, Central America, South America, and the Caribbean for state-selected priority birds throughout their annual life cycle. Currently, Missouri is one of 29 states that participate in the Southern Wings Program. The program provides the coordination necessary to enhance the quality and success of on-the-ground habitat and breeding bird population

conservation efforts that all states have worked to protect.

The Conservation Department has been a partner in Southern Wings since 2009. On-the-ground conservation activities are numerous and include land protection in Quintana Roo, Yucatan Peninsula, Mexico. In El Cielo Biosphere Reserve, Tamaulipas, Mexico, migrant bird monitoring and mist netting were used to

determine what migratory flyways and habitats are used by Missouri's breeding birds. Conservation efforts of the Southern Wings partnership also include working with local landowners around the Reserva El Jaguar, Nicaragua, for migrant-bird-friendly coffee production landscapes, protecting 47,000 acres of tropical forests on the Caribbean slopes in Guatemala, and cerulean warbler land conservation linkages, public awareness, and education in Colombia, South America.

Recent work in Guatemala illustrates these far-reaching efforts. In May, the Guatemalan National Congress passed a law that declared 46,950 acres of a mountainous region on the Caribbean slope as a new national protected area. State fish and wildlife agencies of Ten-

Long-Distance Migrants

In all, about 1,800 of the 10,000 bird species worldwide are long-distance migrants. Long-distance migrants annually migrate from a breeding ground to a non-breeding ground over long distances, often over thousands of miles. Scientists use small, lightweight GPS units, called geolocators, attached to birds to download locational data and track migration routes. Bar-tailed godwits are large shorebirds and strong fliers. One individual was tracked with a geocator over its nonstop flight from western Alaska to New Zealand — a distance of 7,200 miles one way in nine days! Peregrine falcons log about 25,000 miles on their round-trip migration from the Arctic to the Antarctic region and back. Many small songbirds travel thousands of miles. For example, cerulean warblers migrate 3,300 miles one way from breeding grounds to their winter ranges.

nessee, Arkansas, Iowa, and Texas have been in partnership with the Conservation Department to secure this land since 2012 for the migrant birds that winter or stop there during migration to refuel in this region. The newly protected parcel is a World Alliance for Zero Extinction Site and also will protect many endemic and endangered amphibians found on the area. It is Guatemala's first new nationally protected area in seven years.

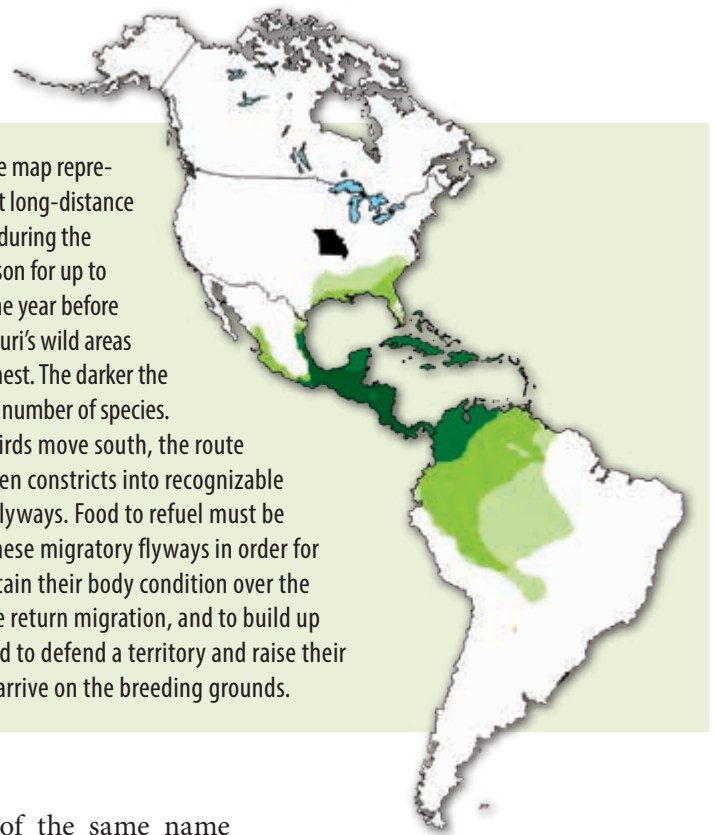
An Advocate for Birds

Brad Jacobs, the Conservation Department's ornithologist, is dedicated to these programs' advocacy, expertise, and coordination in the interest of bird conservation. With 56 years of birding experience and 25 years with the Department, he has advocated for bird conservation partnerships at the local, state, national, and international levels.

Jacobs began his Department bird conservation efforts working with nearly 400 of Missouri's birders on the Missouri Breeding Bird Atlas Project. He co-authored a publi-

The green on the map represents areas that long-distance migrant birds use during the non-breeding season for up to eight months of the year before returning to Missouri's wild areas and backyards to nest. The darker the green, the greater number of species.

As migrating birds move south, the route that they take often constricts into recognizable pathways called flyways. Food to refuel must be available along these migratory flyways in order for the birds to maintain their body condition over the winter, during the return migration, and to build up the energy needed to defend a territory and raise their young once they arrive on the breeding grounds.



cation in 1997 of the same name with then-state ornithologist James Wilson. Jacobs authored another Department publication, *Birds in Missouri*, in 2001.

Jacobs has worked with 14 Audubon Society chapters in the state to establish the Audubon Missouri office of the National Audubon Society. He worked to establish and lead an organizational effort to set up guidelines for the Missouri Bird Conservation Initiative, and the Southern Wings Program effort was born with a presentation by Jacobs on full life-cycle bird conservation to the Bird Conservation Committee of the Association of Fish and Wildlife Agencies in 2005.

More to Come

Birds are familiar, likeable, and enjoyed by many. Even those who do not birdwatch enjoy the ecological benefits provided by these animals. The Department, its myriad of conservation partners, and Missouri's birding community work hard to be stewards of the land and resources that provide homes for birds, if only for part of the year.

Studying, surveying, and monitoring birds teach us a lot about essential bird habitat requirements and provide guidance for habitat management efforts not only in Missouri, but in other parts of the world. Look to future *Conservationist* articles to learn more about ways that you can get involved with birdwatching, how to become a volunteer for bird monitoring efforts, and how to improve your backyard for birds and other wildlife. Citizen participation makes nationwide bird monitoring possible, and therefore essential in the effort to conserve natural resources for future generations. ▲

Brad Jacobs is a wildlife ecologist and ornithologist for the Conservation Department. **Sarah Kendrick** is the outreach and marketing supervisor in the Wildlife Division, and has a Master's in Avian Ecology. They conduct bird identification and conservation biology workshops for the Department and general public. They thank Pete Marra for the idea of this title.



Planting native tree species over coffee creates vertical plant diversity, a migratory bird-friendly method of crop production used in Reserva El Jaguar, Nicaragua, and by adjacent landowners in this large Southern Wings project area.



WHEN CHRONIC WASTING DISEASE HITS HOME

Landowners partner with the Department of Conservation to protect our white-tailed deer herd.

BY JOANIE HIGHAM STRAUB
PHOTOGRAPHS BY DAVID STONNER

MORRIS RATLIFF SITS ON HIS FRONT PORCH with his dog Mitch. He just finished his day bailing hay. Ratliff owns 360 acres of land in Macon County. He leases 85 acres to a neighbor, but the rest he farms and lets his 35 head of cattle graze. He's owned this property since 1995, and he enjoys the beauty of the landscape and the abundant white-tailed deer.

Standing on a ridgetop, overlooking his bean fields, Vernon Robertson pauses and points out that his fields run as far as the eye can see and then some. Robertson purchased his 212 acres nine years ago. He's a hunter, he emphasizes, and has been his entire life.

When both men bought their property in north-central Missouri, neither would have imagined their land would be smack in the middle of an outbreak of chronic wasting disease (CWD). Both have had a deer test positive for the disease since it was first detected in Missouri in 2010. And both have made sacrifices to help the Missouri Department of Conservation control this disease and keep it from spreading.

Too Close for Comfort

Macon County consistently ranks in the top five for total deer harvest in Missouri. The area is known for its abundant deer. This knowledge was not lost on Vernon Robertson. He bought his land for the "big bucks."

"I've been a deer hunter ever since I can remember, since I was a little guy," Robertson says. "I've got crops, but the big buck situation; there are a lot of state records coming out of here. That's the reason I bought it, to hunt."

But those record-breaking deer haven't been around much the past three years.

When chronic wasting disease was first detected in Missouri, it was a co-worker of Robertson's who brought it to his attention. Because of the proximity of the find to his land, he realized he was going to have to take a closer look at the disease.

"When I learned the case was found probably about a mile from here, I thought to myself that this could be serious."

When Morris Ratliff retired from military and civil service in 1997, he knew he needed something to do. Being familiar with north-central Missouri, and with relatives nearby, he decided to purchase land in Macon County two years earlier.

Ratliff enjoys letting his friends and family members hunt deer on his property. According to Ratliff, his land is just perfect for the animal.

"If you look around this property, we are ideally situated for deer and other wildlife. We have Mussel Fork Creek that runs down in the middle for about half a mile,



Morris Ratliff tends to his cattle in the CWD Containment Zone in Macon County. "I think we are going to get chronic wasting disease under control," he says. "We are headed in the right direction."

you have pastured and crop ground, lots of trees, the deer just thrive here."

But three years ago, that began to change. That's when chronic wasting disease was detected in captive deer at a private big-game hunting preserve located next to Ratliff's property.

Before chronic wasting disease was found, he had never heard of the disease. In fact, Ratliff really didn't pay too much attention when his good friend, the manager of the wildlife ranch adjacent to his property, called to tell him it was detected at the facility.

"I didn't really have a reaction when it was first found," Ratliff says. "But when it was later found in Macon County near my property, I thought, wow, it's pretty close."

Taking Stock of an Outbreak

Over the coming weeks and months, Ratliff, Robertson, and numerous other landowners around the CWD-positive captive facility would be asked to help the Department of Conservation test additional deer to determine the prevalence, distribution, and severity of the disease

outbreak in the area. This included targeted culling of free-ranging deer.

Chronic wasting disease is a fatal brain disease of the cervid family. It is spread primarily through deer-to-deer contact. It can also be spread over several miles when young bucks leave an area in search of territory and mates.

In 2012, the Conservation Department developed a chronic wasting disease management plan for the CWD Containment Zone (a six-county area that includes Adair, Chariton, Linn, Macon, Randolph, and Sullivan) that called for great local landowner sacrifice to protect the long-term health of Missouri's deer herd.

This plan included the removal of the extremely popular 4-point rule (antler restriction), and it enacted a ban on the placement of feed, salt, and other minerals intended to attract and concentrate deer. The most significant provision of the plan was a call to increase harvest during the hunting season and additional targeted culling following the hunting season within the CWD Core Area, a 30-square-mile area that surrounds the Linn-Macon county line where CWD-positive deer have been found.

Results of the 2013 CWD Surveillance Effort

The sacrifices being made by these grass-roots conservationists may be improving the outlook in their area. A total of 3,666 deer were tested statewide for chronic wasting disease (CWD) during and after the 2013 deer hunting seasons, including more than 200 deer in the CWD Core Area, and all tests came back negative.

"While we are cautiously optimistic that these latest test results suggest our efforts to limit the spread of chronic wasting disease may be working, the threat of this infectious disease remains significant," says MDC State Wildlife Veterinarian Kelly Straka. "Therefore, continued surveillance is important."

This large-scale testing effort was made possible through the cooperation of many of the state's hunters, landowners, and taxidermists — proving once again that Missourians care about conserving forests, fish, and wildlife. Although the absence of any positive CWD tests is encouraging, that doesn't mean this disease has been successfully eliminated from the state's deer population.

"More than 90 percent of Missouri land is privately owned, so landowners are vital to deer management and to our ongoing efforts to limit the spread of chronic wasting disease," Dr. Straka says. "We greatly appreciate the cooperation of local landowners in the CWD Core Area who participated in this effort. Their sacrifice in temporarily reducing local deer numbers is helping to protect the health of deer throughout the state."

The Conservation Department continues to work with hunters, landowners, businesses, other agencies, and partner organizations to identify the disease and limit the spread of chronic wasting disease in Missouri. Anyone seeing sick deer are encouraged to call their local conservation agent or office.

The challenge with chronic wasting disease is that there is no known management strategy that can effectively eradicate CWD from a population once it has become established. However, removing infected or potentially infected deer from the population early in an outbreak offers some hope of limiting the spread of chronic wasting disease. In addition, the Department has held 23 public deer meetings in the last year and a half to listen to Missouri citizens.

For the past three years, landowners such as Ratliff and Robertson have been working alongside the Conservation Department to lower deer numbers and test as many deer as possible within the CWD Core Area.

Making Sacrifices

Robertson decided he would do his part in helping the Department manage for chronic wasting disease, based in part on the Department's past restoration efforts of this prized game animal.

"I look back when there weren't any deer. It was the Conservation Department that brought them in here. When you get right down to it, it was their measures that brought them in here the way they are."

It's that belief, that confidence due to past successes, that reassures Robertson in his work with the Department.

"It's a challenge, but if we can keep chronic wasting disease in this area and continue to do that, regardless if we don't ever get rid of it, if we can keep it here, then I think that is the best for everybody."

Robertson recognizes that when working with chronic wasting disease, it's a long road. But he remains optimistic and ready to help and do his part.

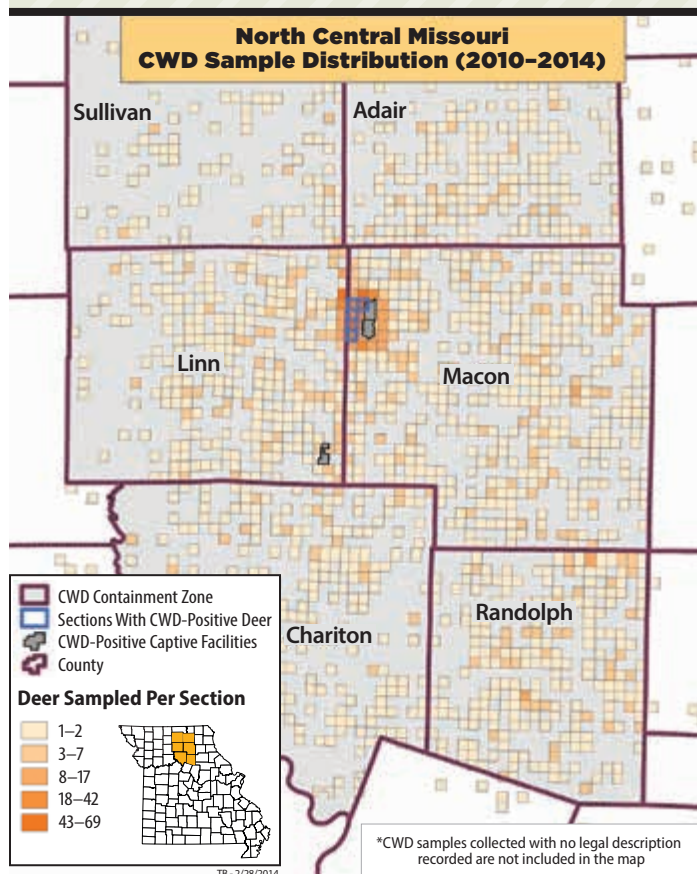
"If I can take care of my own little world, that's about all any of us can do. I'd rather work with it and set the example for the people around me and continue to cooperate. It's a state issue, and because I choose to live in Missouri, it's my issue too."

And while the hunting is still there, it's not the same for Robertson and his clan as it was a couple of years ago. The increased pressure on the deer population is evident. But, that hasn't prevented his friends and family from gathering each year on his property for their annual deer camp.

"They know I'm dealing with chronic wasting disease, but they still look forward to coming here every year for deer season. It's not the population that we had, but they still come up; it is a social event. We've got a history of many, many decades of deer hunting. It's part of our family culture."

Differing Opinions

Since 2011, Ratliff has had approximately 55 deer harvested from his property. His cooperation with the Conserva-





MDC Private Land Specialist George Shurvington meets with Vernon Robertson in Macon County. For the past three years, landowners such as Robertson have been working alongside the Conservation Department to lower deer numbers and test as many deer as possible within the CWD Core Area.

tion Department has sometimes caused differing opinions with his neighbors, some of which are relatives.

“Some people complain that I’m letting the Conservation Department kill all the deer [on my property]. I get a lot of little jabs. But I feel that the problem was identified, and you might as well get on with it and deal with the issue.”

Since then, Ratliff says he and his neighbors have just agreed to disagree on the efforts to remove deer. He remains optimistic for the future of the deer on his land.

“I think we are going to get chronic wasting disease under control. The most important thing, in my opinion, is I think we have been making progress, we are headed in the right direction.”

Dedicated Stewards Make a Difference

While neither man looks at his individual efforts as a sacrifice, their cooperation along with the dozens of other cooperating landowners in the CWD Containment Zone

in working hand-in-hand with the Conservation Department to protect and conserve one of the state’s most valuable natural resources has been crucial in the efforts to limit the spread of chronic wasting disease. It is only through the commitment of dedicated stewards of the land that conservation efforts can be successful.

For Robertson, the fight is personal. With a 14-year-old daughter and a 16-year-old son who enjoy hunting, he wants to leave his children with a place they can always come to and enjoy the hunting heritage he is passing down to them.

“I told my kids, don’t sell this property because of chronic wasting disease. Regardless of what happens with CWD, it’s still land. You can still have crops, squirrel hunt, rabbit hunt. Dealing with the disease, we’ll just deal with it.” ▲

Joanie Higham Straub is the media specialist for the Department’s Central and Northeast regions. She lives in Columbia with her family.

Little Blue Heron

A LITTLE BLUE heron (*Egretta caerulea*) snatches a carp from a mud flat at Columbia Bottom Conservation Area. About half the size of the more widespread great blue heron, this little blue was an unexpected treat as I settled into the cattails on a late-summer morning.

At first glance, the adult little blue heron is not very eye-catching, virtually monochromatic in its namesake color. A closer look reveals a gradation of subtle hues, from a slate-blue body to a maroon head and neck. The pale blue base of the spear-shaped bill further complements the appearance of this beautiful water bird.

The little blue heron is most common in the Mississippi Lowlands of southeast Missouri, where they often nest in mixed colonies with other heron species, but they can be spotted during migration in other parts of the state. Identification can be a bit tricky, depending on the bird's age. First year little blue herons are all white (see inset photo) and can be mistaken for the snowy egret, which is similar in size but has an entirely dark bill, black legs, and yellow feet. As the little blue enters its second year of life, its plumage undergoes a transition from white to blue, giving it a "calico" or "pied" appearance (see inset photo).

The little blue heron is a calm and patient predator, usually hunting from a fixed location, but sometimes strolling through shallow wetlands in search of prey, including fish, amphibians, and a variety of invertebrates. I was fortunate to photograph all three color phases of the species during my visit to Columbia Bottom Conservation Area, as they fed on carp and other fish that were stranded in an ephemeral pool. It was a great day to practice my identification skills as the little blues fed alongside great egrets, snowy egrets, and great blue herons. I was surprised at how tiny the little blue herons appeared next to their great blue cousins.

When asked how I find such temporary pools in which to photograph herons on conservation areas, I always reply, "Look to the sky." I arrive at the area well before dawn and watch for circling birds, especially great egrets, low over cattails and other vegetation. Next, I don my hip waders and head toward the activity, where I usually find a feeding pool. I rarely have to worry about camouflage; I just place my turkey hunting chair in the tall vegetation at water's edge. If you are fastidious about your gear and clothing, mudflats aren't the place for you. By the time I finish shooting, I'm often covered in mud, much like the fish in the featured photo. But, as always with wildlife photography, the reward is worth all of the effort.

—Story and photographs by Danny Brown

📷 (first year) 500mm lens + 1.4 teleconverter • f/6.3 • 1/1600 sec • ISO 200

📷 (second year) 500mm lens + 1.4 teleconverter • f/6.3 • 1/1000 sec • ISO 200

📷 (adult) 500mm lens + 1.4 teleconverter • f/6.3 • 1/800 sec • ISO 200

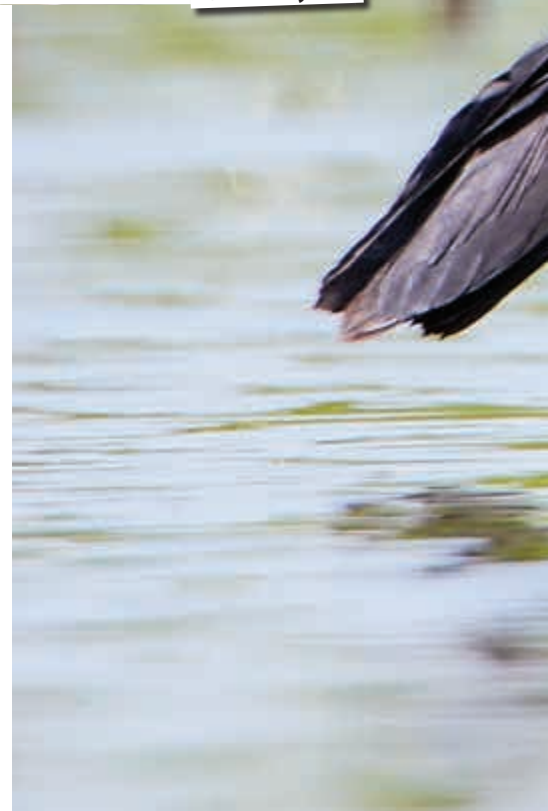
We help people discover nature through our online field guide.
Visit mdc.mo.gov/node/73 to learn more about Missouri's plants and animals.



First year



Second year



Adult



Henry Sever Lake Conservation Area

Looking for a place to get away with the family and do a little camping, fishing, hiking, hunting, or horseback riding? This conservation area offers an array of activities for families in a peaceful, slow-paced setting in northeast Missouri.

THE ORIGINAL 747-ACRE purchase of the Henry Sever Lake Conservation Area (CA) property was made possible through a trust fund established by Henry Sever upon his death in 1941. Sever, a Knox County resident, had an appreciation for wild places and wished to preserve them. With his generous donation and subsequent purchases through the trust, the area has expanded to its current size of 1,115 acres.

When we think of conservation areas, we often think of fishing and hunting opportunities. Henry Sever Lake CA offers these activities and much more. The area has a 158-acre lake stocked with channel and blue catfish and holds one of only two muskellunge populations in northeast Missouri. Other fishing opportunities include crappie, bass, bluegill, and red-ear sunfish. Deer and turkey hunting are popular activities, and the area is one of the Department's 19 Quail Emphasis Areas, or areas managed intensively to provide quality year-round habitat for bobwhite quail. Management activities on the area that help quail include prescribed fire, enhancement of edge habitat, timber stand improvement, food plots, and fescue eradication.

Henry Sever Lake CA has a campground on its east side with gravel camping pads, most of which have a fire ring and lantern holder. The area has a boat ramp, potable water, and a courtesy dock with a fish-cleaning station, a disabled-accessible fishing dock and privy, and a picnic pavilion. Bank fishing opportunities abound with easy access to the lake dam and three fishing jetties. Other privies are



 70–200mm lens • f/4.5 • 1/320 sec • ISO 200 | by David Stonner

distributed throughout the campgrounds and access points around the lake, and five rental boats are available for a fee during summer months.

The area also has a 7.5-mile multi-use trail. This naturally surfaced trail is easily accessible from the campground for hiking and biking. Trail users will traverse native prairies, the lake's edge, woodlands, forests, and old fields. This array of habitats offers an excellent opportunity to view wildlife. An area on the west side of the lake is designated for equestrian camping and trail access. A privy, five gravel pads, and high lines for tying horses are the only amenities provided in the equestrian area.

Holidays are often busy at Henry Sever Lake, but many times throughout the year, the area is relatively quiet and users can sit in a lawn chair and watch the sunset over the lake from the solitude of a campsite. Come get away from it all at Henry Sever Lake CA.

—Darlene Bryant, area manager



Henry Sever Lake Conservation Area

Recreation opportunities: Bird watching, fishing, hunting, nature viewing, primitive camping, hiking, biking, horseback riding, and wildlife viewing

Unique features: The area features oak and hickory forests, a 158-acre lake, native prairie, and woodlands.

For More Information: Call 660-785-2420 or visit mdc.mo.gov/a5801.



MDC DISCOVER nature

To find more events near you, call your regional office (phone numbers on Page 3), or visit mdc.mo.gov and choose your region.

HIDDEN NATURE

SEPT. 6 • SATURDAY • 1–2:30 P.M.

Kansas City Region, Burr Oak Woods

Conservation Nature Center,

1401 NW. Park Road, Blue Springs, MO 64015

No registration • All ages

Who's hiding under that log? We love to explore nature, but we often forget to slow down and look at the amazing details awaiting us. Join us as we discover the smaller plants and animals that are hidden right under our noses.

DISCOVER NATURE — WOMEN: TRAP SHOOTING

SEPT. 20 • SATURDAY • 9 A.M.–12 P.M.

Ozark Region, Twin Pines Conservation

Education Center/Gist Ranch,

RT 1 Box 1998, Winona, MO 65588

Registration required, call 573-325-1381 for more information

Women, ages 16 and older

Learn the basics of trap and skeet shooting in a relaxed, controlled atmosphere. Firearms, ammunition, and hearing and eye protection will be provided. The shooting portion of the program will be held at Gist Ranch shooting range in Texas County. Shuttling will be provided from the Twin Pines Conservation Education Center.

GREAT OUTDOORS DAY.

SEPT. 27 • SATURDAY • 8:30 A.M.–3 P.M.

Southwest Region, Andy Dalton Shooting

Range and Outdoor Education Center,

4897 N Farm Road 61, Ash Grove MO 65604

No registration, call 417-895-6880

for information • All ages

The 20th Annual Great Outdoors Day event encourages participation in the shooting sports of archery, rifles, and shotguns at the range, and fishing, camping, fly tying, and canoeing at the Aquatic Education Pond. Firearms and ammunition are provided. No personal firearms are allowed.

DISCOVER NATURE — WOMEN: FISHING FUNDAMENTALS

SEPT. 27 • SATURDAY • 9 A.M.–NOON

Central Region, Runge Conservation Nature

Center, 330 Commerce Drive,

Jefferson City, MO 65102

Registration required, call 573-526-5544

Women, 18 years and older

Hang up your "Gone Fishing" sign and meet at Runge to learn the basics of this popular sport. This program will cover fishing basics such as baiting your hook, casting techniques,

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IDEAS FOR FAMILY FUN

and filleting your catch. We will provide the necessary items (rods, bait, etc.), but feel free to bring your own gear if preferred.

FAMILY OUTDOORS DAY, NATIONAL HUNTING AND FISHING DAY

SEPT. 27 • SATURDAY • 9 A.M.–NOON

Northeast Region, NEMO Fairgrounds,

2700 E. Illinois Street, Kirksville, MO 63501

No registration • All ages

Join us for a Family Outdoors Day in celebration of National Hunting and Fishing Day. All activities are free and include an archery tournament, fishing pole and casting instruction and practice, turkey calling demonstration, and much more.

A DAY AT THE CONFLUENCE, NATIONAL HUNTING AND FISHING DAY

SEPT. 27 • SATURDAY • 10 A.M.–3 P.M.

St. Louis Region, Columbia Bottom

Conservation Area, 801 Strottdtman Road,

St Louis, MO 63138

No registration • All ages

Celebrate National Hunting and Fishing Day at the Confluence. Whether you dress it, fillet it, or none of the above, fun activities await. Take a boat ride with us. Get a closer look at our fishy friends in the "touch tank." Explore for animal sign, or take aim at some "game." The event takes place at the Columbia Bottom Boat Ramp area, parking lot G.



DISCOVER NATURE PHOTO CONTEST

Show the world your idea of discovering nature in Missouri. Using your Google+, Instagram, or Twitter account, tag your Missouri nature photos with "#MDCdiscovernature." Your photos will appear on our website at mdc.mo.gov/node/26255, where you can also read the contest rules. Every month, Department staff will select and post a winning photo. We'll publish all of the monthly winners in the January 2015 issue of the *Conservationist*.



Subscribe online • mdc.mo.gov/node/9087 • Free to Missouri households



I Am Conservation

Bob and Pat Perry, center, pose with students Hanna Hoss, left, and Hunter Hoss in the outdoor classroom at Harry S Truman Elementary School in Rolla. The Perrys became involved with the school when they joined the Master Naturalist Program. They were looking for volunteer opportunities that helped kids get outdoors and excited about nature. "We enjoy doing hands-on activities with them, where they can feel and handle animal pelts, hear frog calls, dip net for tadpoles, and learn about spiders and their value," said Pat Perry. They help with the school's Outdoor Kids Club and with maintenance of the 7-acre outdoor classroom. Several other Master Naturalists, who are also Stream Team members, volunteer and show the kids how to monitor the pond for water quality and macroinvertebrates. The Perrys are also charter members of the Missouri Forestkeepers program, which they have been involved with through Forest ReLeaf since 1996. "Growing up, we both enjoyed outdoor activities, such as camping, hiking, and canoeing," said Pat Perry. "We moved to Rolla in 1988 and started working to improve our property for wildlife and became interested in native plants and grasses. Our involvement in the Master Naturalist program has enabled us to work with and get to know experts in botany, wildlife biology, and ornithology, who have readily shared their knowledge with us. We feel that it is a privilege to share that information and enthusiasm with others.... Seeing the joy and wonder in a child's eyes when you put a tadpole in their hands helps keep us young!" —*photograph by Noppadol Paothong*